distance, all would be well. Obviously, that was not the case here or in many other "routine" events.

Poor communications among the watchstanders also was a factor. The OOD and the CIC watch officer didn't talk much. No one monitored the bridge-to-bridge radio-telephone or used it to warn ships in the area about what the destroyer was doing. The JL phone talker, lookouts and the CIC surface tracker didn't ensure the bridge watch knew everything they knew.

Finally, supervision was lacking. Neither the XO nor the navigator stayed on the bridge during this critical evolution, as required by the ship's navigation bill. In CIC, the watch officer had put his watch supervisor in charge. The boatswain's mate of the watch wasn't supervising the lookouts or the JL phone talker. The OOD didn't speak to his bridge team about making sure they stayed alert to possible hazards during the watch.

The people involved in this mishap were all talented and capable men and women who lost situational awareness and were blind to the risks related to this calibration event. If the crew had used ORM, they would have gained valuable insight into the possible hazards they faced and could have taken steps to minimize them. Don't rely on the standard procedures we have in place for everyday operations to protect you. Investigate all the possible things that can go wrong and know what you're going to do if they happen—before an operation starts.

The author was assigned to the Naval Safety Center when she wrote this article.

Why This Collision Occurred

By Cdr. Elizabeth Rowe, USN (Ret.)

Imagine you're a high-school baseball coach, and one of your players who has been hitting well starts to lose his edge. You have some data: when the slump began, what pitchers he faced during his off games, and what his batting average was and is. Why is he in the slump, though?

If he isn't injured, finding the answer to that question will require you to investigate. Perhaps you find that he has a drug or alcohol problem. Maybe he's having trouble at home or in school. Once you establish the "why," it becomes clear what to do about the problem and help him return to his winning ways.

We believe mishaps are similar to this example. If we can identify the causes, we're much better prepared to correct a problem and reduce the number of mishaps. In the *NavOSH Program Manual for Forces Afloat*[1], we outlined a new method for describing causes when you report afloat mishaps. Causes fall into four main categories (human, material or equipment, procedures, and design). Beneath these four categories are a number of subcategories. Keep in mind that any mishap, particularly a major one, can involve more than one cause. When you report a mishap, you must examine and describe all the causes.

Our mishap investigation into the collision between a destroyer and a merchant ship offers a good example of this new method. This mishap had only human causes, which is typical. Here's the narrative of one cause in the collision: The OOD failed to stand a proper watch. This is a human cause because it's associated with people. It falls under the subcategory "unsafe supervi-

sion" because a supervisor, the OOD, didn't perform his duties correctly. We further break this cause down under the heading "inadequate" because the OOD didn't ensure the safe operation of the ship.

Here are three more examples:

- JL phone talker failed to adequately pass info from CIC and lookouts to the OOD. This cause also is human, but the subcategory is "unsafe act" because a person did something unsafe. More specifically, it's an "error" because it was unintentional.
- Rescheduled deployment compressed the ship's schedule, resulting in physical fatigue throughout the ship. In this human cause, the subcategory is "unsafe crew condition" because the crew's performance was affected by their personal condition. We categorize this as "adverse physiological condition" because you have a physical condition (fatigue) with psychological effects.
- ORM was not used to assess risks for the shiphandling part of the evolution. This cause is titled "organizational influence" because it reflects the effects of policy, culture, and rules or regulations on the performance of the crew. In this case, the effect was "internal" because the decision not to implement ORM was controlled by the CO and his subordinates, instead of outside influences.

Using these identified causes, we can begin to measure trends in these factors and focus analysts on developing methods to reduce the frequency of the causes. With your help in reporting shipboard mishaps, along with identifying the "why" involved, we can start correcting the causes and reducing the number of mishaps that occur in the fleet.

The author was assigned to the Naval Safety Center when she wrote this article.

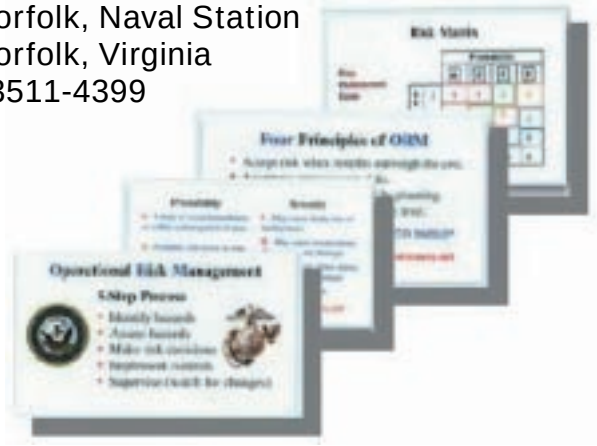
Navy photo by PH2 Matthew J. Thomas

For More Info...

[1] The new method for describing causes when reporting mishaps is described in change 2 to OpNavInst 5100.19C.

How To Order ORM Cards

Contact:
Defense Automated Printing Service
1641 Morris Street, Bldg. KBB
Norfolk, Naval Station
Norfolk, Virginia
23511-4399



The POC is Mike Benton,
(757) 444-7724,
Ext. 15 (DSN 564),
e-mail: mbenton@daps.dla.mil